

Name KEY Chemistry I: solubility graphs

Period all Date _____

Use the solubility graphs in the reference pack to answer the following questions.

1. How many grams of CsCl will dissolve in 100 g H₂O at 10°C? ans 170 g
2. How many grams of NaNO₃ will dissolve in 100 g H₂O at 90°C? ans 160 g
3. How many grams of NaCl will dissolve in 100 g H₂O at 0°C? ans 35 g
4. How many grams of SO₂ will dissolve in 100 g H₂O at 25°C? ans 10 g
5. How many grams of NH₃ will dissolve in 100 g H₂O at 90°C? ans 10 g
6. How many grams of KCl will dissolve in 100 g H₂O at 10°C? ans 30 g
7. How many grams of KNO₃ will dissolve in 100 g H₂O at 0°C? ans 15 g
8. How many grams of KClO₃ will dissolve in 100 g H₂O at 90°C? ans 52 g
9. How many grams of KI will dissolve in 100 g H₂O at 20°C? ans 144 g
10. How many grams of NaNO₃ will dissolve in 100 g H₂O at 0°C? ans 73 g
11. At what temperature will 60 g of NH₄Cl dissolve in 100 g H₂O? ans 70 °C
12. At what temperature will 100 g of LiCl dissolve in 100 g H₂O? ans 65 °C
13. At what temperature will 39 g of NaCl dissolve in 100 g H₂O? ans 90 °C
14. At what temperature will 80 g of RbCl dissolve in 100 g H₂O? ans 5 °C
15. At what temperature will 140 g of NaC₂H₃O₂ dissolve in 100 g H₂O? ans 59 °C
16. At what temperature will 150 g of NaC₂H₃O₂ dissolve in 100 g H₂O? ans 75 °C
17. How many grams of KCl can be added to 100 g of H₂O if the temperature is increased from 50 °C to 80 °C ? ans 10 g
18. How many grams of CsCl can be added to 100 g of H₂O if the temperature is increased from 0 °C to 20 °C ? ans 25 g
19. How many grams of RbCl can be added to 100 g of H₂O if the temperature is increased from 20 °C to 100 °C ? ans 52 g
20. How many grams of NaCl can be added to 100 g of H₂O if the temperature is increased from 0 °C to 100 °C ? ans 3 g
21. How many grams of NaNO₃ can be added to 100 g of H₂O if the temperature is increased from 25 °C to 95 °C ? ans 76 g

22. How many grams of SO_2 can be added to 100 g of H_2O if the temperature is increased from 0°C to 40°C ? ans 0 g
23. How many grams of KClO_3 can be added to 100 g of H_2O if the temperature is increased from 50°C to 80°C ? ans 23 g
24. How many grams of KNO_3 can be added to 100 g of H_2O if the temperature is increased from 0°C to 60°C ? ans 93 g
25. How many grams of NH_4Cl can be added to 100 g of H_2O if the temperature is increased from 0°C to 100°C ? ans 49 g
26. How many grams of KCl will precipitate out of 100 g of water that is cooled from 80°C to 20°C ? ans 19 g
27. How many grams of NaCl will precipitate out of 100 g of water that is cooled from 80°C to 20°C ? ans 2 g
28. How many grams of KI will precipitate out of 100 g of water that is cooled from 22°C to 20°C ? ans 5 g
29. How many grams of NH_4Cl will precipitate out of 100 g of water that is cooled from 85°C to 15°C ? ans 35 g
30. How many grams of CsCl will precipitate out of 100 g of water that is cooled from 25°C to 0°C ? ans 27 g

For the next problems you will need to set up ratios to determine the number of grams of solute that will dissolve in the given amount of water.

31. How many grams of NaNO_3 will dissolve in 200 g H_2O at 90°C ? ans 320 g
32. How many grams of NaCl will dissolve in 300 g H_2O at 0°C ? ans 112 g
33. How many grams of SO_2 will dissolve in 150 g H_2O at 25°C ? ans 13.5 g
34. How many grams of NH_3 will dissolve in 500 g H_2O at 90°C ? ans 50 g
35. How many grams of KCl will dissolve in 50 g H_2O at 10°C ? ans 15 g
36. How many grams of KNO_3 will dissolve in 350 g H_2O at 0°C ? ans 52.5 g
37. How many grams of KClO_3 will dissolve in 1550 g H_2O at 90°C ? ans 806 g
38. How many grams of NaNO_3 will dissolve in 1 g H_2O at 90°C ? ans 1.6 g
39. How many grams of NaCl will dissolve in 600 g H_2O at 0°C ? ans 222 g
40. How many grams of SO_2 will dissolve in 1 L H_2O at 25°C ? ans 100 g